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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/728,347	12/04/2003	Daniel Joseph Buerkle	ROC920030197US1	8620

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IBM CORPORATION
ROCHESTER IP LAW DEPT. 917
3605 HIGHWAY 52 NORTH
ROCHESTER, MN 55901-7829

EXAMINER

CHUNG, DANIEL J

ART UNIT	PAPER NUMBER
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2672

DATE MAILED: 05/17/2005

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary

Application No.

10/728,347

Applicant(s)

BUERKLE ET AL.

Examiner

Daniel J Chung

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-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --
Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☐ Responsive to communication(s) filed on ____.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-27 is/are pending in the application.
- 4a) Of the above claim(s) ____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) ____ is/are allowed.
- 6) ☒ Claim(s) 1-27 is/are rejected.
- 7) ☐ Claim(s) ____ is/are objected to.
- 8) ☐ Claim(s) ____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on ____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
- ☐ Certified copies of the priority documents have been received.
 - ☐ Certified copies of the priority documents have been received in Application No. ____.
 - ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
- * See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- 1) ☒ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) ☒ Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)
Paper No(s)/Mail Date 7-12-04.
- 4) ☐ Interview Summary (PTO-413)
Paper No(s)/Mail Date. ____.
- 5) ☐ Notice of Informal Patent Application (PTO-152)
- 6) ☐ Other: ____.

DETAILED ACTION

Information Disclosure Statement

Receipt is acknowledged of Applicant's Information Disclosure Statement of 7-12-2004, which has been placed in the application file and considered by the Examiner.

Drawings

The drawings are not objected to by the Examiner.

Specification

Please review the application and correct all informalities.

Claim Objections

Claim 13 is objected to because of the following informalities: In line 4 of claim 13, "...the line buffer after prior to longitudinal..." should apparently read "...the line buffer prior to longitudinal...". Appropriate correction is required. Applicant is respectfully requested to carefully review all claims for any other informalities that require correction.

Claim Rejections - 35 USC § 102

The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

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(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

Claims 1-2,5-7,9-18,21-23 and 25-27 are rejected under 35 U.S.C. 102(b) as being anticipated by Lum et al. (5,764,238)

Regarding claim 1, Lum et al discloses that the claimed feature of a circuit arrangement, comprising: a line buffer [i.e. "line buffer"; 47,57,58] having a width (See Fig 6, col 7 line 4-5, col 9 line 4-5); and an image scaling circuit [i.e. "scaler"; 11,16,31] coupled to the line buffer [47,57,58] and configured to generate a scaled image from a source image ["source"] by partitioning ["sub-divided"] the source image into a plurality of partitions and image scaling each partition using the line buffer, wherein each partition has a width that is no greater than that of the line buffer, and the scaled image has an overall width that is greater than that of the line buffer. (See Fig 2, col 9 line 6-15)

Regarding claim 2, Lum et al discloses that the plurality of partitions includes first and second partitions [i.e. "adjacent pixels"; 9a,9c] arranged adjacent to one another in the source image, and wherein the image scaling circuit is further configured to store boundary conditions ["boundary conditions"] for the first partition for use during image scaling of the second partition. (See Fig 2, col 9 line 11-15)

Regarding claim 5, Lum et al discloses that the boundary conditions ["boundary conditions"] initialize the image scaling circuit [11,16,31] during image scaling of the second partition to a state that would occur were image scaling performed jointly on the first and second partitions. (See Fig 2, col 9 line 11-15)

Regarding claim 6, Lum et al discloses that the boundary conditions include at least one of a partition read start address, a partition write start address, a horizontal filter pixel count, a horizontal filter pixel phase, a horizontal filter output count, a horizontal filter reduction count, and a horizontal pixel decrement value. (See col 9 line 11-15, Appendix A,B)

Regarding claim 7, Lum et al discloses that a memory [i.e. screen memory"; 29] read unit configured to retrieve source image data from a memory; a horizontal filter unit [11,31,41] coupled to the memory read unit and configured to horizontally scale the source image data retrieved from the memory to generate horizontally scaled image data; a vertical filter unit [16,31,39] coupled to the horizontal filter unit and configured to vertically scale the horizontally scaled image data to generate scaled image data, wherein the line buffer is disposed in the vertical filter unit; and a memory [29] write unit coupled to the vertical filter and configured to store the scaled image data in the memory. (See Fig 2, Fig 3)

Regarding claim 9, Lum et al discloses that each of the memory read and write units includes a pixel format converter. [i.e. "D/A converter"; 35] (See col 4 line 59-62)

Regarding claim 10, Lum et al discloses that each of the vertical and horizontal filter units [11,16,31,39,41] includes a symmetric non-linear filter. (See Fig 6-7)

Regarding claim 11, Lum et al discloses that the line buffer has a width less than or equal to about 512 pixels. (See col 9 line 4-5)

Regarding claim 12, Lum et al discloses that each partition ["sub-divided"] includes a plurality of lines, wherein the image scaling circuit [11,16,31] is configured to image scale each partition by longitudinally scaling each of the plurality of lines (See Fig 2), and wherein the width of each line of each partition is no greater than that of the line buffer after longitudinal scaling. (See Fig 2, Fig 6-7, col 9 line 6-15)

Regarding claim 13, Lum et al discloses that each partition ["sub-divided"] includes a plurality of lines, wherein the image scaling circuit [11,16,31] is configured to image scale each partition by longitudinally scaling each of the plurality of lines, and wherein the width of each line of each partition is no greater than that of the line buffer after prior to longitudinal scaling. (See Fig 2, Fig 6-7, col 9 line 6-15)

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Regarding claim 14, claim 14 is similar in scope to the claim 1, and thus the rejection to claim 1 hereinabove is also applicable to claim 14. (Also See "integrated circuit chip" in col 1 line 37)

Regarding claim 15, claim 15 is similar in scope to the claim 1, and thus the rejection to claim 1 hereinabove is also applicable to claim 15. (Also See Abstract)

Regarding claim 16, claim 16 is similar in scope to the claim 1, and thus the rejection to claim 1 hereinabove is also applicable to claim 16. (Also See "application program" in col 5 line 1-7)

Regarding claims 17-18, claims 17-18 are similar in scope to the claims 1-2, and thus the rejections to claims 1-2 hereinabove are also applicable to claims 17-18.

Regarding claims 21-23, claims 21-23 are similar in scope to the claims 5-7, and thus the rejections to claims 5-7 hereinabove are also applicable to claims 21-23.

Regarding claims 25-26, claims 25-26 are similar in scope to the claims 12-13, and thus the rejections to claims 12-13 hereinabove are also applicable to claims 25-26.

Regarding claim 27, Lum et al discloses that the claimed feature of a method of scaling a graphical image, the method comprising: transferring image data for a source

image ["source"] from a memory [i.e. "screen memory"; 29] to a horizontal filter [11,31,41] such that the horizontal filter receives the image data arranged into a plurality of horizontally arranged partitions ["sub-divided"], with each partition including a plurality of lines of image data; horizontally scaling [11] each line of image data in each partition using the horizontal filter to generate a plurality of horizontally scaled lines of image data and vertically scaling [16] the plurality of horizontally scaled lines of image data using a vertical filter to generate a scaled image, wherein the vertical filter [16,31,39] includes at least one line buffer configured to store the horizontally scaled lines of image data, and wherein each horizontally scaled line of image data has a width that is no greater than of the line buffer [47,57,58], and the overall width of the scaled image is greater than that of the line buffer. (See Fig 2, Fig 6, col 9 line 6-15)

Allowable Subject Matter

Claims 3-4,8,19-20 and 24 are objected to as being dependent upon a rejected base claim, but would be allowable if rewritten in independent form including all of the limitations of the base claim and any intervening claims.

The following is an examiner's statement of reasons for allowable subject matter: The present invention is directed to image scaling with horizontal partitioning. Each independent claim identifies the uniquely distinct features "the image scaling circuit is configured to initiate a partition boundary save operation to store the boundary conditions for the first partition upon image scaling a last line of the first partition, and to

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initiate a partition boundary restore operation prior to image scaling a first line of the second partition to retrieve the stored boundary conditions for use during image scaling of the second partition." The closest prior art, Lum et al (5,764,238) discloses a similar system, either singularly or in combination, fail to anticipate or render the above underlined limitations obvious.

Any comments considered necessary by applicant must be submitted no later than the payment of the issue fee and, to avoid processing delays, should preferably accompany the issue fee. Such submissions should be clearly labeled "Comments on Statement of Reasons for Allowance."

Conclusion

The prior art made of record and not relied upon is considered pertinent to applicant's disclosure. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Daniel J. Chung whose telephone number is (571) 272-7657. He can normally be reached Monday-Thursday and alternate Fridays from 7:30am- 5:00pm. If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Michael, Razavi, can be reached at (571) 272-7664.

Any response to this action should be mailed to:

Commissioner of Patents and Trademarks

Washington, D.C. 20231

or faxed to:

(703) 872-9306 (Central fax)

(703) 872-9314 (for Technology Center 2600 only)

Hand-delivered responses should be brought to Crystal Park II, 2121 Crystal Drive, Arlington, VA, Sixth Floor (Receptionist).

Any inquiry of a general nature or relating to the status of this application or proceeding should be directed to the Technology Center 2600 Customer Service Office whose telephone number is (703) 306-0377.

djc
May 10, 2005



MICHAEL RAZAVI
SUPERVISORY PATENT EXAMINER
TECHNOLOGY CENTER 2600